

Extracts from a manuscript found among the papers of Dr. Robert Worthington of Lenox, Mass.,  
and loaned me by his grand-daughter, Mrs. F. J. Barrett. Copied in October 1895.

Remarks  
upon  
the fluxus infantilis,  
or  
malignant dysentery,  
that raged in Lenox,  
chiefly among children,  
in the summer of 1822.



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The foregoing observations are introductory to an account which I purpose to give of an epidemic disease that prevailed in Lenox in the summer of 1822 and was peculiarly malignant, intractable and mortal.

Previous to describing the disease, it will be expedient to give a short topographical description of the place where it chiefly prevailed, that a full and correct idea of its cause and nature may be exhibited.

The town of Lenox has an elevated situation, and is interspersed with hills of moderate height rising from lower grounds with a gentle slope. The air is pure and serene, and the inhabitants have usually enjoyed remarkable health. The Church stands on the highest spot in the town, except the mountains, and the Court House is placed on another eminence, at the distance of half a mile. Between these edifices is a valley of moderate depression, in which, at the first settlement, was a small morass, covering about one acre of land, with a pond of water in the centre that was rarely dry. From this marsh there were no less than three outlets, carrying away the surplus of water in as many directions. The principal road was laid through this pond and swamp, and the most compact part of the village was built contiguous thereto. The road was originally made with dry hemlock logs of a large size, placed parallel to each other and slightly covered with earth. From the middle of this marsh another road, causeyed in the same manner, went off at an angle. A few rods distant another causey, of the same materials, was made across one of the outlets of the marsh. The whole of the artificial road, in this valley, was about thirty rods. In front of the buildings, and in the intervals between them, the ground was raised with earth brought from the neighboring hills, intermixed with the sweepings of several mechanic's shops and the washings of the declivities in the road. The cellars under the buildings were made without digging and generally had water in them, the surplus of which was discharged by a drain. In the rear of the buildings was a part of the marsh from which the water had been drawn off by a ditch leading into one of the outlets, and had been used for gardens. In the centre of the triangle formed by the junction of the two roads, and in the original marsh, a well, of large dimensions, had been dug for the accommodation of the inhabitants. From this well, for several years, had issued a loathsome stench, proceeding, no doubt, from the putrefaction going on in its immediate vicinity, and the water could not be used for any domestic purpose. At the time that the epidemic prevailed a similar stench was perceived in the low grounds of the old marsh, which was more particularly offensive in the evening, the gas descending at that time with the falling dew.

The weather was very warm and sultry during the summer. The hot weather began early in June, and continued unusually severe till some time in September. During this period there





was hardly a <sup>cool</sup> day. The ground was deprived of moisture to a considerable depth, and the putrefactive process had every facility for its progress in this low and marshy spot.

Here then we have, concentrated in one point, the concurrence of three of the causes above enumerated, eminently conducive to the production of epidemic diseases, viz., a drained marsh, a collection of putrefying vegetables and a great and protracted heat in the atmosphere.

After making these preliminary observations, I shall proceed to the description of the fatal dysentery of 1822.

In the month of July a Mr. Jones came into the village, sick with the dysentery. He languished a few days and expired. Several of the family who lived in the house where Mr. Jones died were soon attacked with the same disorder, and from thence it spread rapidly through the neighborhood, at first on the eminence near the Court House and in a few days across the valley towards the Church. The disease was chiefly confined to children under fourteen years of age, though several, in more advanced life, were afflicted. Scarce a family, within a hundred rods of the aforementioned marsh, who had not one or more sick with the disease. A few sporadic cases occurred in other parts of the town, the most of which could evidently be traced to the infected district, being communicated to persons tending the sick there and returned home with the disease upon them. From these patients the disease was contracted by some of the same families. Hence it is apparent that the disorder was highly contagious. The epidemic continued to rage, with unabated violence, for two months, and then gradually abated, in the urgency of the symptoms, as the cold weather advanced. The whole number of the sick was about sixty. of whom one half perished under the disease, - a mortality scarcely equalled, in any age or country, by the most malignant disease.

The symptoms were such as were usual in the dysentery, and had nothing very peculiar in them. As generally happens, there was considerable variety in the different patients, in the attack, in the progress and termination of the disease. In many, severe pain from , with sanguinary discharges, prevailed from the beginning. In others, there was only a slight diarrhoea at first, but it quickly assumed the malignant form and was equally fatal as those whose attack had been more threatening. In some cases, bloody stools were scarce observable, but instead thereof a sanious matter, resembling beef brine, was evacuated. In a few patients, a dark colored matter, resembling coffee grounds, was discharged in the last stage, which I suppose was similar to the black vomit, so called, which occurs, as the last symptom, in the yellow and puerperal fevers, in inflammations of the stomach and bowels, occasioned by a superficial mortification of those parts. Fever attended most of the cases; but in different degrees of violence and malignity. In general it was inflammatory, but in a few cases it was evidently typhoid, especially towards the close. In many of the cases a delirium came on, with great debility and exhaustion. This was the effect, in the opinion of the physicians,





of a serous effusion on the brain. It might have been caused by an asthmatic inflammation of the , arising from extreme debility. In the access of the disease, and during its progress, the fœtor, peculiar to alvine discharges, was almost wholly absent; but when the disease changed its form, assuming that of diarrhoea, the stools were uncommonly offensive. This appearance was considered a favorable symptom, and happened in most instances that recovered.

The curative method employed appears to have been judicious; perhaps every thing was done that the present state of the science affords. The alimentary canal was cleansed early, followed by Ipecacuanha in small doses, once in twenty-four hours, so as to excite a gentle vomiting, and up the peristaltic motion. Mucilaginous substances, particularly arrowroot, with the addition of nutmeg, was frequently exhibited by the mouth, and by injection. In addition to these medicaments, anodynes and stomachics were given, as the symptoms indicated. Stimulating fomentations were applied to the bowels occasionally.

Without pretending that I could, had I been present, advised to a more efficacious course than that which was employed, I may be permitted, in this place, to suggest a few thoughts on the care of dysentery which will be of general application.

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During the prevalence of this epidemic dysentery, two cases of a different kind occurred in the infected district, originating from the same cause, which must not be omitted. Mrs. Clark, aged about forty years, of a firm habit of body and who had uniformly enjoyed as good health as most people, was taken, without any previous complaint, with a pain in the head and a troublesome stricture in the neck. When these symptoms had lasted four days, a copious flow of blood from the gums commenced, accompanied with sublivid spots scattered over her body. Previous to this sanguinary flux, she felt so little indisposed as to be able to attend to her family concerns without inconvenience. The hemorrhage from the gums continued, and the vibriens (?) on the surface of the body increased in number and magnitude, till the fourth day from their first appearance, when she expired. The body was in such a state of rapid putrefaction as to render it necessary that the corpse should be immediately interred.

----- The other case was that of Miss Comstock, aged thirty years, who enjoyed good health and was apparently as free from any predisposition to disease as any person. She lived near the causey made across one of the outlets of the marsh, as described above. She was seized with the usual symptoms of typhus fever, which baffled all the efforts of physicians to mitigate its violence, continued increasing in the severity of its symptoms, great heat, unquenchable thirst, ( ) skin, blackness of tongue and lips, vibriens of a purple color on the body, delirium, &c., till the (blank in original) day, when she expired.





The local situation of this town has always been so conducive to health that this is probably the first instance of a primary typhus fever that ever occurred in it, except a few cases brought from infected places abroad. It was attended with symptoms of high malignancy which the most potent remedies would not allay, and affords an additional confirmation of the local cause which I have assigned to the epidemic.

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In the epidemic of which I am treating, the first case, as I have already mentioned, was Mr. Jones, who came and lodged at a house that is opposite to the Coffee-house, situated about sixty rods from the place that I consider the centre of the infected district; to this distance must the miasmata pass, if my theory be correct, to produce the effects that I have assigned to them of predisposing the residents there to the disease; and that it did pass that short distance and produce its specific effects, there can be no doubt. The wind, in continued hot weather, is steadily from the northern quarters, and whenever it veers to any other point a change in the temperature may be expected. It cannot, surely, be thought incredible that the qualities of the air, whether morbid or salutary, should be conveyed sixty or eighty rods, when the wind is continually moving in that direction.

What has been said is sufficient to account for the introduction into the family where Mr. Jones was sick and died, and upon the principle that I have referred it would naturally be communicated to others whose bodies had been vitiated by the gas from the marsh. This would be as natural an effect as that a spark should explode gunpowder previously prepared; this is perfectly dry, and from its nature is peculiarly susceptible of fire, by the access of which an explosion is made. So in the case of this epidemic, the materials of the disease already existed in the bodies of the inhabitants and it required only the aid of an occasional cause to put them into action and produce the disease in its worst form.

From the house where the disease appeared at first, it spread to others in the immediate vicinity, and thence from house to house, till after a lapse of several days it reached and passed beyond the infected district. Here I must notice a fact sustained by general experience, that persons habituated to unhealthy places and climates are much less obnoxious to the diseases incident thereto than strangers who have been accustomed to more salubrious situations. Thus people from a northern climate when they go to a southern are pretty sure of being attacked with typhus fever, even in seasons when the natives enjoy good health. This sufficiently elucidates the fact that those dwelling on the elevated ground near the Court House, where the air is usually serene and pure, were attacked with this epidemic, though some of them lived a quarter of a mile from the scene of contagion, some days before those who resided on the spot. ----- Yet they who dwelt on the infected spot, and in the immedi-





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vicinity, did not long escape the contagion; the disorder soon attacked them and was equally fatal as in the more remote places. Their habits did not ultimately protect them from the influence of the noxious exhalations, especially as their virulence was daily augmenting by the heat and other peculiarities of the season.

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It may properly be enquired, What can be done to prevent the recurrence of so fatal a malady, and what means ought to be pursued should it again appear? To the first question I shall answer, that the ground ought to be raised, by one or more feet of earth spread over the infected spot; and to promote the dissolution and extinction of the logs there imbedded a considerable quantity of quicklime should be mixed with the earth employed in raising the ground. By the former, the pestilential gas will be in some measure smothered, and prevented from rising and diffusing its baleful influence through the atmosphere; and by the latter, the annihilation of the deleterious cause will be expedited, while the absorbent qualities of the lime will sheathe and correct the gas that may arise. I should advise those that live on the unhealthy place and who have water in their cellars, to drain them entirely and not suffer any water to stand in puddles therein; they should be more careful than in ordinary cases not to suffer any vegetable to remain in their cellars during the summer months, but to clean them thoroughly in the spring and let them be ventilated by giving a free circulation to the air through openings on the different sides. The cellars should also be sprinkled with lime in the spring and summer seasons. The remains of the old marsh, in the rear of the buildings, should have a good quantity of sand spread over it; this would operate as manure by intermixing with the swampy soil, and would be pretty conducive to health. But I would, in a particular manner, advise that the well, in the centre of the square, should be closed up. If the people should be unwilling to lose the benefit of the well, which has cost them money to dig and stone, place some planks horizontally across the well, four or five feet from the surface of the ground, and then fill the cavity with earth, every purpose of salubrity and sweetness will be answered. If this is done early in summer, it may be opened when the frosts appear, every objection will be taken away, a most noisome stench will be removed and an enemy to health buried.

I have only a single word to say, in answer to the second inquiry, and that is, if the disease should show itself again in a suspicious form, let the inhabitants remove immediately to some more healthy situation. It is all they can do.

Science - November 1892

The first of the great questions of science is the question of the origin of life. It is a question which has occupied the minds of philosophers and scientists for centuries. The question is, how did life first appear on this planet? The answer to this question is the subject of the following pages.

The second of the great questions of science is the question of the evolution of life. It is a question which has occupied the minds of philosophers and scientists for centuries. The question is, how did life evolve from its simple beginnings into the complex organisms which we see today? The answer to this question is the subject of the following pages.

The third of the great questions of science is the question of the structure of matter. It is a question which has occupied the minds of philosophers and scientists for centuries. The question is, what is the nature of matter? The answer to this question is the subject of the following pages.

The fourth of the great questions of science is the question of the laws of nature. It is a question which has occupied the minds of philosophers and scientists for centuries. The question is, what are the laws which govern the universe? The answer to this question is the subject of the following pages.

The fifth of the great questions of science is the question of the mind. It is a question which has occupied the minds of philosophers and scientists for centuries. The question is, what is the nature of the mind? The answer to this question is the subject of the following pages.